

Descriptions and records of the genera *Ectropidia* Warren, *Nigriplephara* Holloway and *Myrioblephara* Warren (Geometridae, Ennominae) from the Philippines

Rikio SATO

2-27-29 Shindori-nishi, Niigata, 950-2036 Japan

Abstract Five species of *Ectropidia*, two species of *Nigriplephara* and seven species of *Myrioblephara* are recorded from the Philippines. Two species of *Ectropidia* and four species of *Myrioblephara* are described as new to science.

Key words *Ectropidia*, *Nigriplephara*, *Myrioblephara*, Geometridae, new species, new records, Philippines.

In my previous paper (Sato, 1999), I recorded twelve species of the genus *Diplurodes* Warren from the Philippines, with descriptions of nine new species, and hereunder will be presented a taxonomic study of the genera *Ectropidia* Warren, *Nigriplephara* Holloway and *Myrioblephara* Warren, close relatives of *Diplurodes*, from the Philippines. I examined lots of specimens in Zoological Museum, Copenhagen, Denmark (acronym: ZMC), Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn (ZFMK), Bishop Museum, Honolulu (BMH), and National Science Museum, Tokyo (NSMT) in addition to my own materials. The specimens in ZMC were collected by the Danish Noona Dan Expedition in 1961 and 1962, details of which were given by Petersen (1966), with special reference to entomology, and those in ZFMK were taken by Dr Schintlmeister and his colleagues during collecting expeditions to the Philippines in 1988 and 1993, accounts of which were given by Schintlmeister (1993).

Unless stated otherwise, all the specimens including the type material recorded in this paper will be deposited in the National Institute of Agro-Environmental Sciences (NIAES), Tsukuba, Japan.

***Ectropidia* Warren**

Type species: *Acidalia exprimata* Walker, 1861.

***Ectropidia exprimata* (Walker)**

Acidalia exprimata Walker, 1861, *List Specimens lepid. Insects Colln Br. Mus.* **23**: 764.

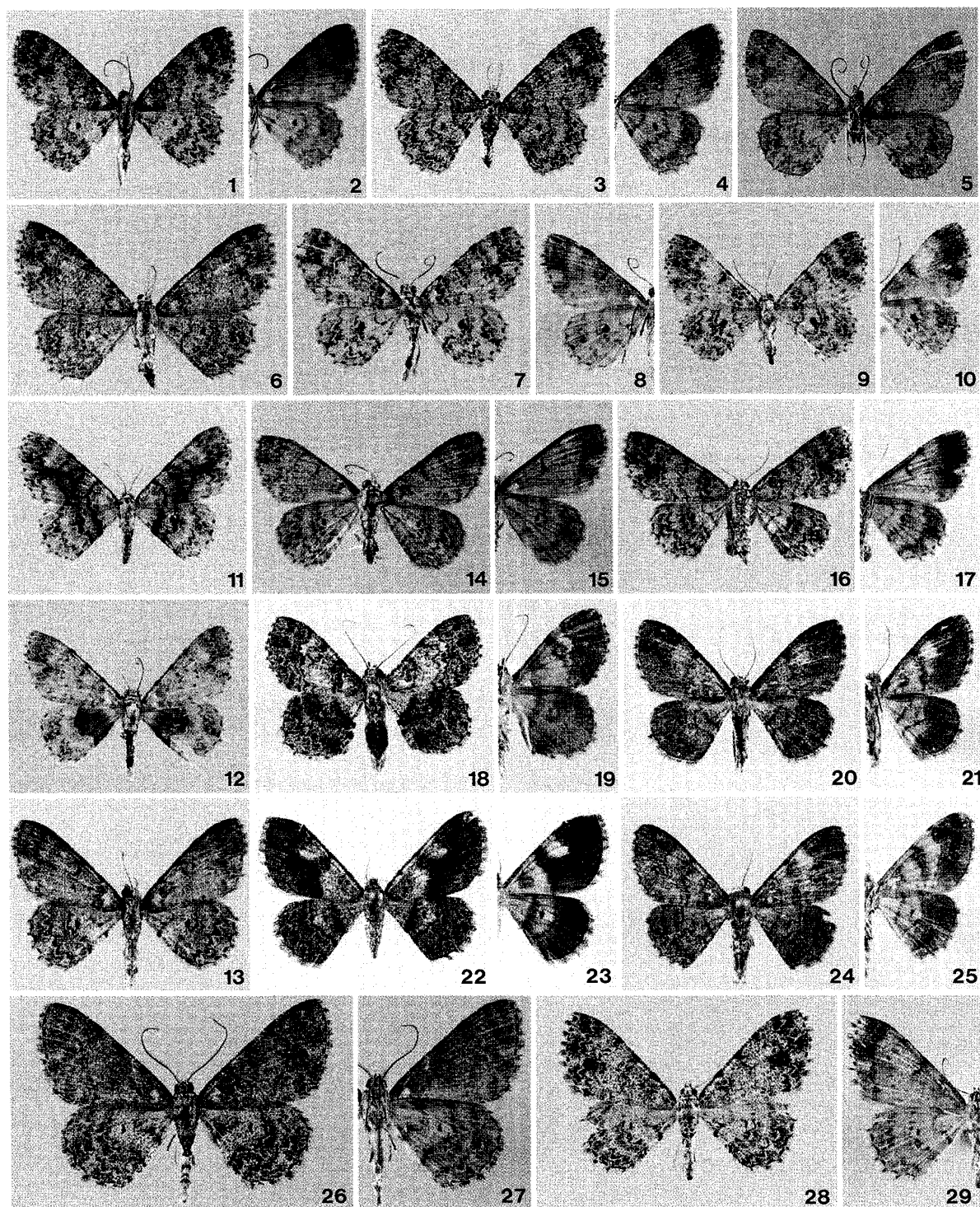
Diplurodes exprimata: Barlow, 1982: 130.

Ectropidia exprimata: Warren, 1895, *Novit. zool.* **2**: 126.

This species was described from Sarawak in Borneo, and then Peninsular Malaysia, Sumatra, Java and New Guinea were added to its geographical range by Barlow (1982).

Male and female genitalia are shown as in Figs 48 and 65. The former were also illustrated by Holloway (1994, fig. 547).

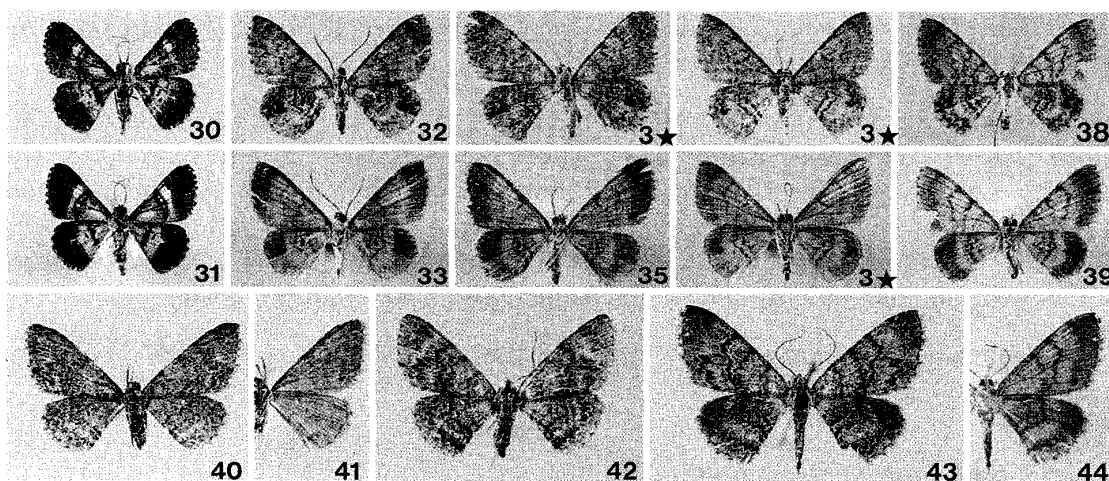
Material examined. Luzon. 1 ♀, Mountain Province, Ifugao, Banawe, 3,550 feet, 1. vi. 1957



Figs 1-17. *Myrioblephara* spp. 1-6. *M. plumosa* (Semper). 1-2. ♂, Mindanao. 3-4. ♀, Mindanao. 5. ♂, Luzon. 6. ♀, Luzon. 7-17. *M. tranostigma* (Prout). 7-8. ♂, Mindanao. 9-11. ♀, Mindanao. 12. ♂, Mindanao. 13. ♂, Negros. 14-15. ♂, Luzon. 16-17. ♀, Luzon.

Figs 18-25. *Ectropidia* spp. 18-19. *E. fimbripedata* Warren. ♂, Panay. 20-23. *E. philippidaria* sp. nov. 20-21. Holotype, ♂, Negros, NIAES. 22-23. Paratype, ♀, Luzon, ZFMK. 24-25. *E. leytenis* sp. nov. Holotype, ♂, Leyte, NIAES.

Figs 26-29. *Myrioblephara macrosimplaria* sp. nov. 26-27. Holotype, ♂, Mindanao, NIAES. 28-29. Paratype, ♀, Mindanao, ZFMK.



Figs 30-31. *Nigriplephara cheyi* Holloway. ♂, Mindanao.

Figs 32-44. *Myrioblephara* spp. 32-35. *M. semperi* sp. nov. 32-33. Holotype, ♂, Mindanao, NIAES. 34-35. Paratype, ♀, Mindanao, ZFMK. 36-39. *M. palawanica* sp. nov. 36-37. Holotype, ♂, Palawan, NIAES. 38-39. Paratype, ♀, Mindanao, NIAES. 40-44. *M. mamorui* sp. nov. 40-41. Holotype, ♂, Luzon, ZFMK. 42-44. Paratypes, ♀, ZFMK.



Figs 45-47. Holotype of *Ectropis plumosa* Semper, in Senckenberg Museum. Photographs by Dr Stüning.

(Tage Ellinger), ZMC; 1 ♂, Mt Province, Mayoyao, Ifugao 1,200-1,500 m, 4-5. viii. 1966, Light Trap (H. M. Torrevillas), BMH. Negros. 2 ♂, Mt Canlaon, x. 1995 (native collector). Leyte. 1 ♂, Mt Bolocauhae, 1-6. ii. 2000 (native collector). Mindoro. 1 ♂, Mt Halcon, viii. 1999 (native collector). Mindanao, 2 ♂, Mt Busa, x. 1996 (native collector). Palawan. 1 ♂ 1 ♀, Mantalingajan, Pingisan 1,600 m, 4. ix. 1961, Noona Dan Exp. 61-62; 1 ♂ 1 ♀, *ditto*, 6. ix. 1961; 1 ♂, Mantalingajan, Tagembung 1,150 m, 18. ix. 1961, ZMC; 1 ♀, N. Palawan, 20 km NEE Roxas, S. Vicente, 13-16. xii. 1991 (K. Cerny), ZFMK.

Geographical range. Luzon, Negros, Leyte, Mindoro, Mindanao, Palawan; Peninsular Malaysia, Borneo, Sumatra, Java, New Guinea. New to the Philippines.

Ectropidia altiprimata Holloway

Ectropidia altiprimata Holloway, 1994: 258.

Male genitalia (Fig. 49) were already shown by Holloway (1994, fig. 549) in the original description. Female genitalia are first shown as in Fig. 66.

Material examined. Negros. 1 ♀, Mt Canlaon 850 m, 29. iv. 1997 (B. Tanaka); 1 ♀, Mt Canlaon (native collector). Panay. 1 ♀, Mt. Balabag 500 m, 23. viii–1. ix. 2000 (native collector). Leyte. 1 ♂, 19. xi. 1994 (native collector). Mindanao. 1 ♂, Mt Kitanglad, iv. 2000 (native collector). Palawan. 1 ♀, North Palawan, Matalangao 150 m, 28–30. viii. 1985 (M. Owada), NSMT. S. Palawan, Mt Mantalingajan 1,000 m, 9–13. iii. 2000 (native collector); 1 ♀, Napsan, Mt Salakot 700 m, 17–20. ii. 1996 (J. S. Petersen), ZMC.

Geographical range. Negros, Panay, Leyte, Mindanao, Palawan; Borneo. New to the Philippines.

***Ectropidia fimbripedata* Warren (Figs 18–19)**

Ectropidia fimbripedata Warren, 1900, *Novit. zool.* 7: 113; Holloway, 1994: 259.

Dipluroides fimbripedata: Holloway, 1976: 80; Barlow, 1982: 130.

This species was described from Peninsular Malaysia, and was recorded from Borneo, Sumatra and the Philippines by Holloway (1976) and Barlow (1982). Later Holloway (1994) deleted the Philippines from the geographical range without mentioning any reason. I examined male specimens from Peninsular Malaysia (including the holotype), Borneo, Sumatra and the Philippines. The Philippine specimens are larger than the others (length of forewing 14–15 mm), and the Bornean specimens are different from the others in the male genitalia (valve costa longer, extending apically along the ventral margin, with larger digitate process subbasally). To confirm the subspecific treatment for the different populations, more specimens including females will be needed. Male genitalia of the Philippine and Bornean specimens are shown as in Figs 50 and 51, and the latter were also illustrated by Holloway (1976, 1994).

Type material examined. Holotype. ♂, “Type/Gunung Ijau/2–3,000 ft. III. 98, Butler/Geometridae genitalia slide No. 13172”, BMNH.

Material examined. Samar. 2 ♂, Mt Capotoah 600 m, 10–18. xii. 2001 (native collector). Leyte. 3 ♂, Mt Bolocawe 600 m, iii. 2000 (native collector). Panay. 3 ♂, 23. viii–1. ix. 2000 (native collector). Negros. 12 ♂, Mt Canlaon, x. 1995 (native collector). Mindanao, 1 ♂, Mt Busa, 10–17. vi. 1997 (native collector).

Geographical range. Samar, Leyte, Panay, Negros, Mindanao; Peninsular Malaysia, Sumatra, Borneo.

***Ectropidia philippidaria* sp. nov. (Figs 20–23)**

Length of forewing 12–15 mm, wing expanse 20–25 mm. Very similar to *E. illepidaria* (Walker, 1861), *List Specimens lepid. Insects Colln Br. Mus.* 23: 765, and *E. quasilepidaria* Holloway, 1994: 260, both from Borneo, which are indistinguishable on external characters, but can be distinguished by the male and female genitalia (Holloway, 1994). This and the next new species are also not separable by external appearance. The genitalia of both sexes provide the only reliable diagnostic characters in separating each species among them.

Male genitalia (Fig. 52). More similar to those of *illepidaria* (Fig. 54) than to those of *quasilepidaria* (Fig. 55) in the shape of uncus and aedeagus. Uncus longer and almost

parallel-sided, ended at roundish apex, while in *illepidaria* tapering to pointed apex. Aedeagus broadened at apical third as in *illepidaria*.

Female genitalia (Fig. 67). More similar to those of *illepidaria* (Fig. 68) than to those of *quasilepidaria* (Fig. 69) in having elongate bursa copulatrix. Ductus bursae shorter and broader, more sclerotized, not bent posteriorly as in *illepidaria*.

Holotype. ♂, Negros, Mt Canlaon, x. 1995 (native collector). Paratypes. 34 ♂ 13 ♀. 5 ♂ 3 ♀, Negros, same data as holotype; 1 ♂, Leyte, Mt Bolocawe 600 m, iii. 2000 (native collector); 3 ♂, Panay, Mt Balabag 500 m, 23. viii–1. ix. 2000 (native collector); 17 ♂ 5 ♀, N. Luzon, Calayan Is., 5–9. vii. 2000 (native collector); 3 ♂ 4 ♀, Luzon, Prov. Quezon, Quezon Forest National Park 250 m, 8–10. x. 1988 (Cerny & Schintlmeister), ZFMK. 1 ♂, Luzon, Cararines Sur, Mt Isarog 750–800 m, 15–17. v. 1963, BMH; 3 ♂, Mindanao, Mt Busa, x. 1996 (native collector); 1 ♂, Mindanao, S. Catabato, Mt. Matutum, data unknown (native collector); 1 ♀, Palawan, 30. i. 1986 (native collector).

Etymology. The specific name, *philippidaria*, means that the species is distributed in the Philippines and very similar to *illepidaria*.

Geographical range. Luzon, Negros, Panay, Leyte, Mindanao, Palawan.

Ectropidia leytenis sp. nov. (Figs 24–25)

Length of forewing 15–16 mm, wing expanse 25–26 mm. Larger in size than the previous species. No reliable discriminating characters between them in wing colour and markings. Female unknown.

Male genitalia (Fig. 53). Readily distinguished from those of the other congeners by dilated cucullus. Uncus short with a pointed apex.

Holotype. ♂, Leyte, Mt Bolocawe 600 m, iii. 2000 (native collector). Paratype. 1 ♂, same data as holotype.

Etymology. The specific epithet of this new species is given after the type locality “Is. Leyte” in the Philippines.

Geographical range. Leyte.

Nigriplephara Holloway

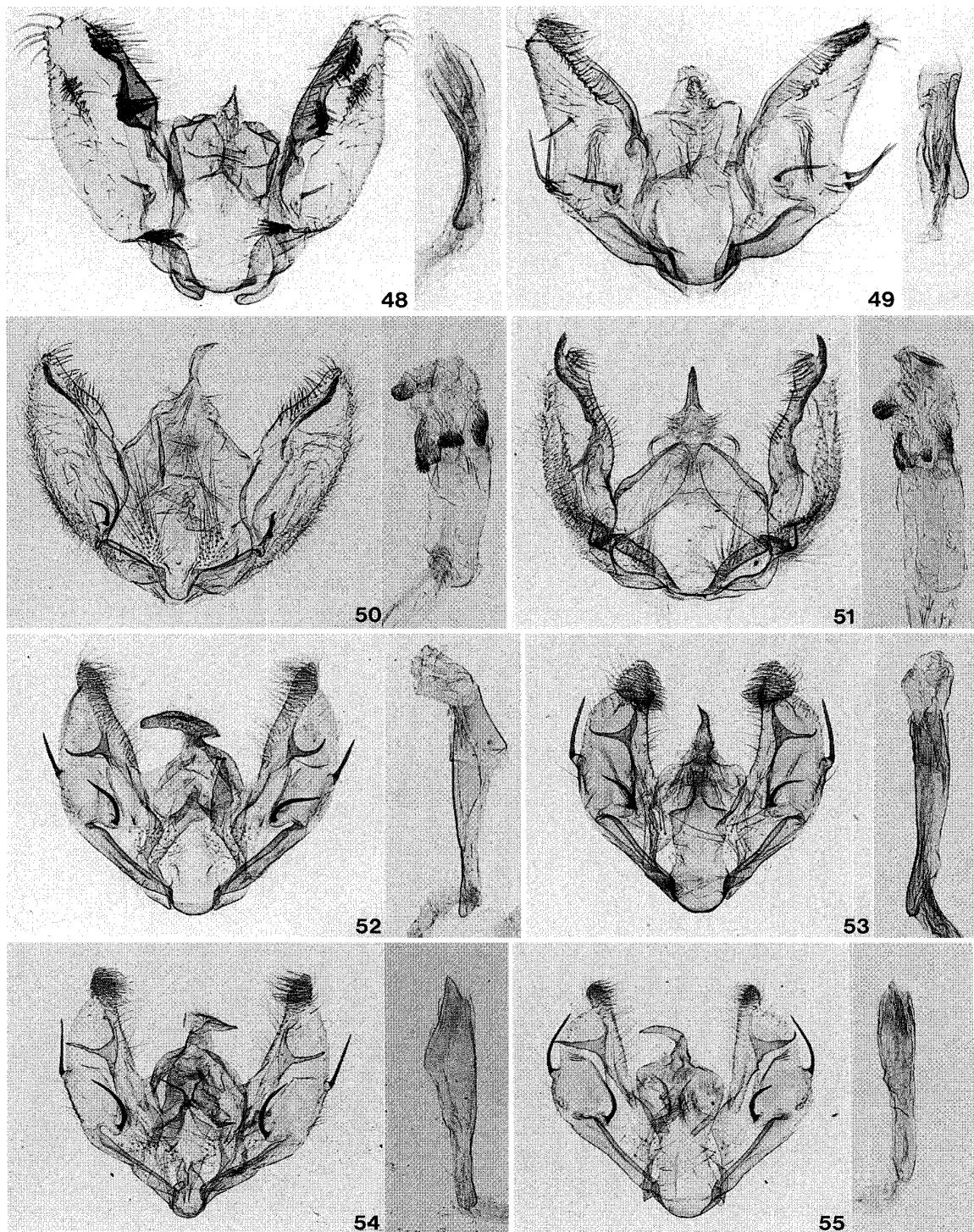
Type species: *Nigriplephara radula* Holloway, 1994.

Nigriplephara radula Holloway

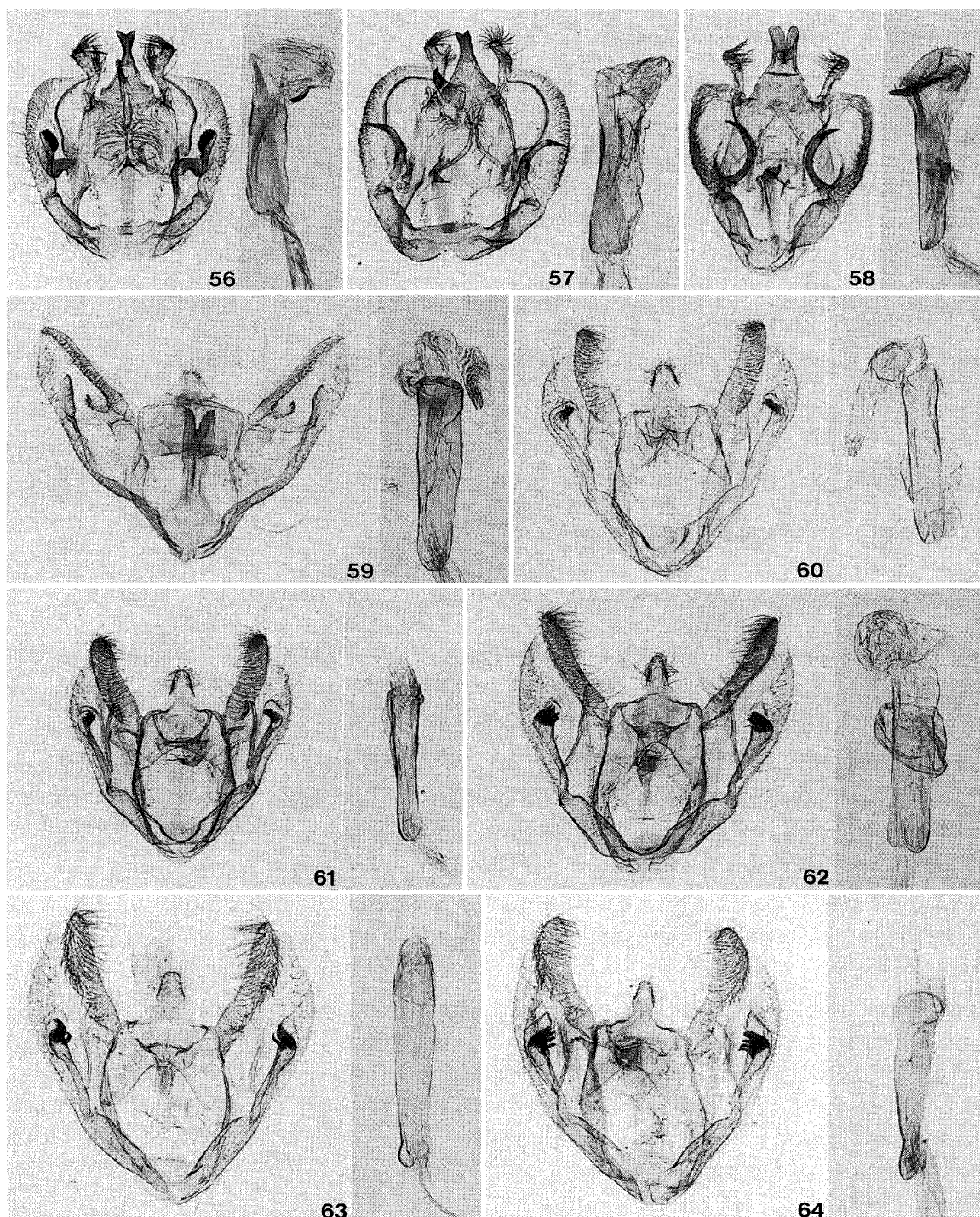
Nigriplephara radula Holloway, 1994: 268.

Material examined. Palawan. 1 ♂, N. Palawan, 20 km NEE Roxas, S. Vicente, 12–17. i. 1988 (K. Cerny & A. Schintlmeister), ZFMK.

Geographical range. Palawan; Borneo, Peninsular Malaysia, Sumatra. New to the Philippines.



Figs 48–55. Male genitalia of *Ectropidia* spp. 48. *E. exprimata* (Walker). Mindanao. RS-5897. 49. *E. altiprimata* Holloway. Mindanao. RS-5895. 50. *E. fimbripedata* Warren. Panay. RS-5896. 51. *E. fimbripedata* Warren. Borneo. RS-5449. 52. *E. philippidaria* sp. nov. Leyte. RS-5997. 53. *E. leytenensis* sp. nov. Leyte. RS-5894. 54. *E. illepidaria* (Walker). Sumatra. RS-2752. 55. *E. quasilepidaria* Holloway. Sumatra. RS-2739.



Figs 56-64. Male genitalia. 56-58. *Myrioblephara* spp. 56. *M. semperi* sp. nov. Mindanao. RS-5949. 57. *M. palawanica* sp. nov. Palawan. RS-5948. 58. *M. mamorui* sp. nov. Luzon. RS-6071. 59. *Nigriplephara cheyi* Holloway. Mindanao. RS-5285. 60-64. *Myrioblephara* spp. 60. *M. plumosa* (Semper). Holotype. 61. *M. plumosa* (Semper). Mindanao. RS-5437. 62. *M. macrosimplaria* sp. nov. Mindanao. RS-5438. 63-64. *M. tranostigma* (Prout). 63. Luzon. RS-6089. 64. Mindanao. RS-5903.

***Nigriplephara cheyi* Holloway (Figs 30–31)**

Nigriplephara cheyi Holloway, 1994: 269.

This species was described from Borneo based on the holotype male only, and no other specimens have been added since the original description (Holloway, 1994). One male is recorded herein from Mindanao. It has some differences from the holotype as follows. Larger in size, length of forewing 12 mm, while 10 mm in the holotype; hindwing with whitish medial area. Male genitalia (Fig. 59): juxta not so strikingly bifid, with more scobination apically; saccular process stouter. Male genitalia of the holotype were shown by Holloway (1994, fig. 573).

Material examined. 1 ♂. Mindanao, Mt Busa, x. 1996 (native collector).

Geographical range. Mindanao; Borneo. New to the Philippines.

***Myrioblephara* Warren**

Type species: *Myrioblephara rubrifusa* Warren, 1893.

***Myrioblephara semperi* sp. nov. (Figs 32–35)**

Length of forewing 11–12 mm, expanse 18–19 mm. Similar to *M. pallibasis* Holloway, 1994: 254, from Borneo. Postmedial line on hindwing gently outcurved beyond discocellular streak, while in *pallibasis* almost straight and parallel with medial line.

Male genitalia (Fig. 56). Similar to those of *pallibasis*. Uncus longer, more deeply bifid apically; costal arm stouter, sharply pointed at ventro-distal edge; saccular process shorter, broader, strongly bent subbasally, more densely spined apically; apical tapering part shorter; aedeagus with a row of short spines on vesica.

Female genitalia (Fig. 75). Similar to those of *pallibasis*. Lamella postvaginalis with a heavily sclerotized rectangular projection medially, while in *pallibasis* with heavily sclerotized anterior edge.

Holotype. ♂. Mindanao, Mt Dolang-dolang 1,500–1,700 m, 2–7. xi. 1999 (native collector). Paratypes. 2 ♂ 6 ♀. 1 ♂, “Philippinen, Mindanao, Bukidnon, Mt. Kitanglad S. Seite, Intavas, Sekundärveget. 1,200 m, 8°07'N Breite, 124°55'E Länge, viii. 1993, leg. V. Sinjaev ex Coll. Schintlm.”, 1 ♂ 5 ♀, Talakag, Dalongdong, 40 km NW Maramag, Prov. Bukidnon 800 m, 1–3. x. 1988 (Cerny & Schintlmeister), ZFMK. 1 ♀, “P.I.: MINDANAO, Mts. Or., Mt. Pomalihi, 21 km W. Cingoo City, 800–1,000 m, 18. IX. 1965, H. M. Torre Villas, Light Trap, BISHOP”, BMH.

Etymology. This new species is named in recognition of the excellent work done on the Philippine moths by Georg Semper.

Geographical range. Mindanao.

***Myrioblephara palawanica* sp. nov. (Figs 36–39)**

Length of forewing 11–12 mm, expanse 18–19 mm. Postmedial line on hindwing as in *pallibasis*, but both wings paler with whitish medial and terminal areas on hindwing,

Male genitalia (Fig. 57). Uncus parallel sided, while narrowed medially in *pallibasis* and *semperi*; costal arm as in *pallibasis*; saccular process straight rod-like with a single robust long seta instead of numerous short spines apically.

Female genitalia (Fig. 76). More similar to *semperi* than to *pallibasis*, but lamella postvaginalis with a short thorn-like projection.

Holotype. ♂. S. Palawan, Mt Mantalingajan 1,700 m, 1–7. viii. 2000 (native collector).

Paratype. 1 ♀, S. Palawan, Mt Mantalingajan 1,000 m, 9–13. iii. 2000 (native collector).

Etymology. The specific name of this new species is derived from Is. Palawan in the Philippines, where the type specimens were obtained.

Geographical range. Palawan.

***Myrioblephara mamorui* sp. nov.** (Figs 40–44)

Length of forewing 12–18 mm, expanse 18–23 mm. Variable in intensity of markings. Wings darker in general. In some female specimens hindwing suffused with black. Postmedial line on hindwing outcurved beyond discocellular mark as in *semperi*, but more strongly angled. Discocellular streak less developed, sometimes absent.

Male genitalia (Fig. 58). Easily distinguished from those of the other congeners as follows. Uncus shorter, broader, more deeply divided; gnathos without medial horn-like projection; costal arm slenderer; saccular process similar to that of *palawanica*, but longer and strongly curved; aedeagus with a longer row of spines on vesica.

Female genitalia (Fig. 74). Clearly different from those of the other congeners. Lamella postvaginalis almost membranous with a short stick-like sclerotization; colliculum longer; bursa copulatrix slenderer, without scobination posteriorly.

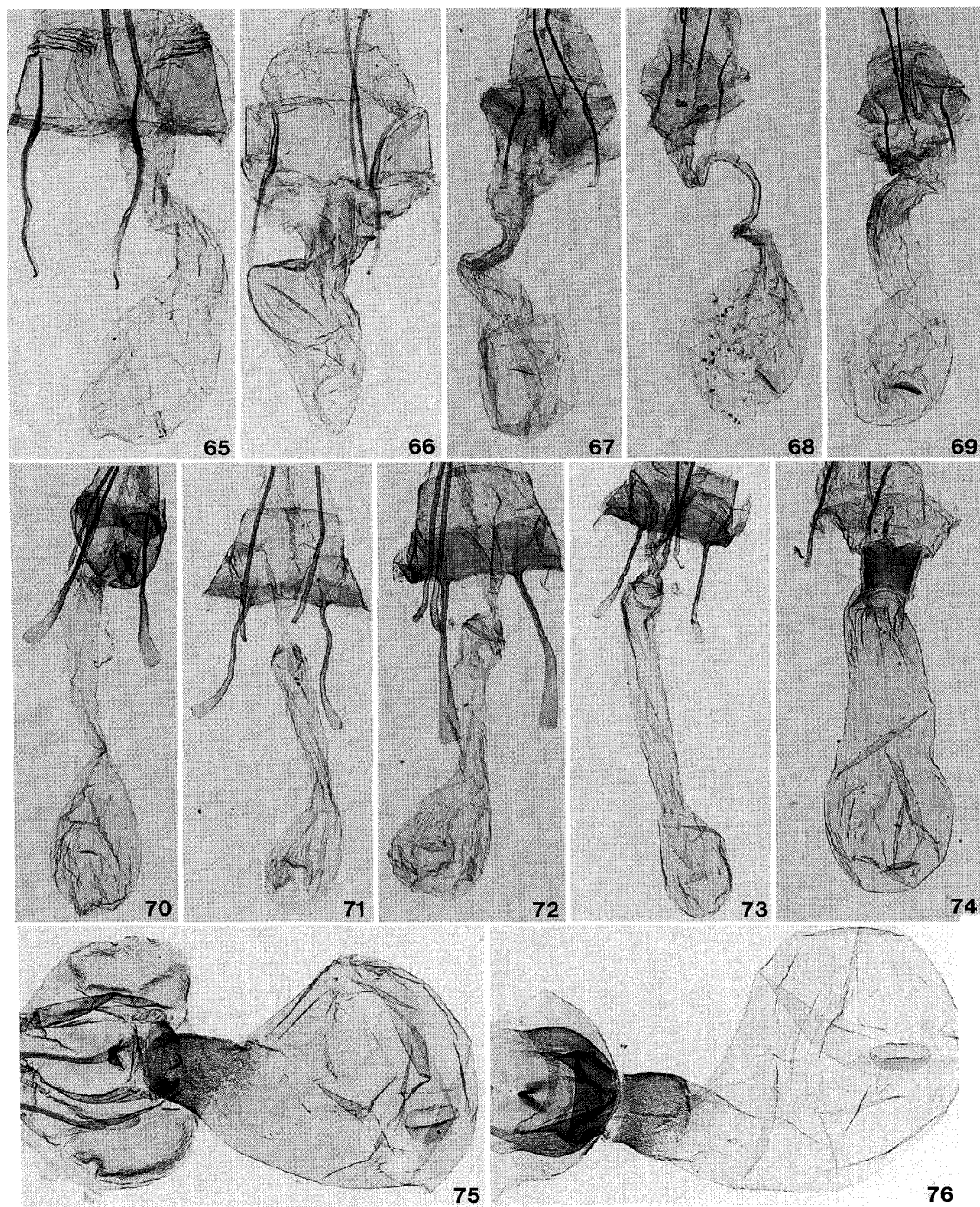
Holotype. ♂. “Philippinen N. Luzon, Ifugao, Mt Pulis, 16 km SSE Bontac 17°02'N Breite 121°01'E Länge, Nebuluwald 2,000 m, 23. ix. 1988, leg. Cerny & Schintlmeister”, ZFMK.

Paratypes. 8 ♀. Luzon. 1 ♀, same data as holotype, 1 ♀, Mts Prov., Chattel 1,600 m, 15 km SE Bonito, 24. ix. & 14. x. 1988 (Cerny & Schintlmeister), 1 ♀, Ifugao, Mt Pulis 1,700 m, 16 km SSE Bonito, 22. vii. 1993 (Sinjaev & Schintlmeister), 1 ♀, Fugato, Banquet 1,100 m, 21. vii. 1993 (Sinjaev & Schintlmeister), 2 ♀, Mts Prov., Mt Maya 2,450–2,700 m, 22 km SE Bonito, 15–17. ii. 1988 (Cerny & Schintlmeister), ZFMK. 1 ♀, Mountain Prov., Mt Puguis 1,950 m, 18. vii. 1985 (M. Owada), 1 ♀, Mountain Prov., Barlig 1,550 m, 17, 19. vii. 1985 (M. Owada), NSMT.

Geographical range. Luzon.

Etymology. The present species was named after Dr Mamoru Owada, who kindly allowed access to the NSMT collection including many Philippine Boarmiini specimens taken by himself.

M. pallibasis was described from Borneo by Holloway (1994: 254), and included Peninsular Malaysia and Sumatra in the geographical range. I have so far examined specimens from P. Malaysia, Sumatra, Borneo and Sulawesi, and found some differences in the genitalia. Especially the P. Malaysian population with distinct genitalia will require a subspecific or specific separation in future. I examined one female specimen from N. Vietnam, which is clearly different from those of *pallibasis* and the Philippine species described in this paper. Another new species will be described from Vietnam after examining further material.



Figs 65-78. Female genitalia. 65-69. *Ectropidia* spp. 65. *E. exprimata* (Walker). Palawan. RS-6079. 66. *E. altiprimata* Holloway. Palawan. RS-5286. 67. *E. philippidaria* sp. nov. Negros. RS-6002. 68. *E. illepidaria* (Walker). Borneo. RS-6019. 69. *E. quasilepidaria* Holloway. Sumatra. RS-6015. 70-78. *Myrioblephara* spp. 70. *M. plumosa* (Semper). Mindanao. RS-5906. 71-72. *M. tranostigma* (Prout). 71. Luzon. RS-5913. 72. Mindanao. RS-5905. 73. *M. macrosimplaria* sp. nov. Mindanao. RS-5439. 74. *M. mamorui* sp. nov. Luzon. RS-6072. 75. *M. semperi* sp. nov. Mindanao. RS-6073. 76. *M. palawanica* sp. nov. Palawan. RS-5953.

including males. *M. pallibasis* and its related species clearly constitute a natural group in the genus *Myrioblephara*.

***Myrioblephara plumosa* (Semper), comb. nov. (Figs 1–6)**

Ectropis plumosa Semper, 1901: 613, pl. 64, fig. 3.

Very similar to *M. simplaria* (Swinhoe). Length of forewing 12–16 mm, expanse 20–26 mm. Both wings paler with more distinct black markings, especially discocellular spot of hindwing larger and more clearly produced. The specimens from Mindanao (Figs 1–4) tend to be more strongly marked than those of Luzon (Figs 5–6).

Male genitalia (Figs 60–61). Similar to those of *simplaria*. Uncus broader; cucullus shorter and broader, parallel-sided, with roundish apex; apical round part of harpe smaller.

Female genitalia (Fig. 70). Similar to those of *simplaria*. Ductus bursae slenderer.

Type material examined. Holotype of *Ectropis plumosa* Semper (Figs 45–47). ♂, “Typus, [underside] Lep. 2730, *plumosa* Swinh./*Ectropis* sp. nov. see my p. 285 name suggested, [underside] *Myrioblephara (plumosa)* sp. nov./ 2060 mètres - - - Apō/631/1170” in Senckenberg Museum, Frankfurt/Main, Germany.

Material examined. Luzon. 1 ♂ 3 ♀, Mountain Prov., Mt Data 2,250 m, 24–26. vii. 1985 (M. Owada); 1 ♂ 1 ♀, Mountain Prov., Mt Pugu 1,900 m, 18. vii. 1985 (M. Owada); 1 ♀, Baguio 1,450 m, 9. vii. 1985 (M. Owada); 3 ♀, Benguet Prov., Sayangan 2,300 m, 10. vii. 1985 (M. Owada), NSMT. 1 ♂ 1 ♀, Mountain Prov., Abatan 1,800–2,000 m, Buguias 60 km S of Bontoc, 1. vi. 1964 (H. M. Torrevillas), BMH. 3 ♂ 3 ♀, Ifugao Prov., Mt Amuyao 2,450–2,700 m, 22 km SE of Bontoc, 15–17. ii. 1988 (Cerny & Schintlmeister); 1 ♀, Ifugao Prov., Banaue 1,200 m, 20 km N Lagawe, 22. ix–16. x. 1988 (Cerny & Schintlmeister); 2 ♀, Ifugao Prov., Chatol 1,950 m, 15 km SE Bontoc, 24. ix & 14. x. 1988 (Cerny & Schintlmeister), ZFMK. 2 ♀, Baguio, i–ii. 1985 (native collector), 1 ♀, Banaway, 11–12. v. 1986 (native collector). Mindanao. 4 ♂ 1 ♀, Bukidnon Prov., Mt Kitanglad 1,700 m, viii. 1993 (Schintlmeister & Sinjaev); 1 ♀, Bukidnon Prov., Mt Kalatungan/Mt Bagonsilang 1,250 m, 29. xii. 1991 (K. Cerny), ZFMK. 1 ♀, Bukidnon Prov., Mt Binansilang 1,200 m, 2. x. 1988 (Cerny & Schintlmeister); 8 ♂, Mt Kitanglad, data unknown (native collector); 1 ♀, *ditto* 1,800 m, 29. vii–2. viii. 2000 (native collector); 2 ♂ 1 ♀, Mt Dolang-dolang 1,500–1,700 m, 2–7. xi. 1999 (native collector); 1 ♂ 1 ♀, *ditto* 2,300 m, 10–12. v. 2000 (native collector); 1 ♀, *ditto* 2,500 m, 22–25. v. 2000 (native collector); 5 ♂ 4 ♀, Mt Apo 1,500–1,800 m, 1–4. xii. 1999 (native collector).

Geographical range. Luzon, Mindanao.

This species was described from Southeast Mindanao based on one male taken at Mt Apō under Swinhoe’s manuscript name “*Ectropis plumosa*”, with a short description, by Semper (1901). The specific name “*plumosa*” has become available under the Code since Semper (1901).

M. simplaria was described from the Khasi Hills in India as *Ectropis* by Swinhoe (1894: 221), and the following five subspecies have been known (Parsons *et al.*, 1999: 618) besides the nominotypical one: *boarmioides* (Rothschild) from Seram, *cucullata* Holloway from Borneo, *meseres* (Prout) from Java, *submarginata* Warren from Papua New Guinea and *tranostigma* (Prout) from Luzon. Further studies will be needed to confirm their taxonomic status.

Myrioblephara tranostigma* (Prout), stat. nov. (Figs 7–17)Ectropis simplaria tranostigma* Prout, 1931: 32.

Length of forewing 14–16 mm, expanse 24–28 mm. Discocellular spot of hindwing very enlarged, in most specimens attached to postmedial line; postmedial line of hindwing deeply incurved near inner margin. The specimens from Luzon, Negros and Mindanao are distinguished from one another by wing colour, but the genitalia of both sexes indicate they are conspecific. The Mindanao specimens (Figs 7–10) are paler with more distinct maculation than the others, and some specimens show various individual varieties in colour and markings, such as forewing suffused with black (Fig. 11) and hindwing with basal black area (Fig. 12). Such varieties cannot be found in the Luzon (Figs 14–17) and Negros populations (Fig. 13). The Negros specimens are darker tinged with grey.

Male genitalia (Figs 63–64). More similar to those of *plumosa* than to those to *simplaria*, but different from the former as follows. Cucullus not parallel-sided, but dorsal and ventral margins gradually curved; harpe shorter with longer and stouter spines in less number on apical part.

Female genitalia (Figs 71–72). Similar to those of both *simplaria* and *plumosa*, but lamella antevaginalis less sclerotized, bursa copulatrix much shorter as a whole.

Type material examined. Syntype. ♂, “Hights Place, Pauai, subprov. Benguet, Luzon, 7000', 29 June 1912 (A. E. Wileman)/Type/*Ectropis simplaria tranostigma* Prout, ♂, type/Rothschild Bequest B. M. 1939-1/Geometridae genitalia slide No. 13219”, BMNH.

Material examined. Luzon. 1 ♂ 1 ♀, Camerines sur, Naga Relay Stn., Mount Isarog, Ocaspo, data unknown, ZFMK. 17 ♂ 11 ♀, Camerines Sur, Mt. Isarog 1,600 m, 21–22. v. 1963 (H. M. Torrevillas); 5 ♂ 1 ♀, *ditto*, 750–850 m, 8–18. v. 1963 (H. M. Torrevillas); 11 ♂ 1 ♀, *ditto*, Pili 600–800 m, 6–9. ix. 1965 (H. M. Torrevillas); 9 ♂ 1 ♀, *ditto*, Pili 800 m, 20–29. iv. 1965 (H. M. Torrevillas); 6 ♂, *ditto*, Pili 800–1,000 m, 3. v. 1965 (H. M. Torrevillas), BMH. 1 ♂, Banaway, 11–12. v. 1986 (native collector). Mindanao. 5 ♂ 5 ♀, Bukidnon Prov., Mt Kitanglad 1,700–2,400 m, viii. 1993 (Schintlmeister & Sinjaev); 3 ♀, Bukidnon Prov., Talakag, Dalongdong 800 m, 1–3. x. 1988; 1 ♀, *ditto*, 31. xii. 1991–2. i. 1992 (Cerny), ZFMK. 1 ♂ 1 ♀, Bukidnon Prov., Mt Binansilang 1,200 m, 2. x. 1988 (Cerny & Schintlmeister); 1 ♂ 1 ♀, Mt Kalatungan, 24–28. vii. 1998; 1 ♀, *ditto* 1,800 m, 29. vii–2. viii. 2000; 1 ♂ 1 ♀, Mt Dolang-dolang, Talakag 1,200 m, 9–17. viii. 1999; 3 ♂ 3 ♀, *ditto* 1,500–1,700 m, 2–7. xi. 1999; 3 ♀, *ditto* 2,300 m, 10–12. v. 2000; 1 ♀, *ditto* 1,400 m, 26–30. v. 2000; 2 ♂ 3 ♀, Mt Apo 1,500–1,800 m, 1–4. xii. 1999; 1 ♂ 2 ♀, Mt Kitanglad, data unknown (native collector). Negros. 2 ♂ 3 ♀, Mt Canlaon 2,000 m, viii. 1998; 1 ♂, *ditto*, data unknown (native collector).

Geographical range. Luzon, Negros, Mindano.

The present species was described by Prout (1931) as a subspecies of *simplaria* from Luzon on a long series taken at Haight's Place, Benguet, by Wileman. His original description is as follows: “Larger than *s. simplaria* (Swinh., 1894), more strongly marked, in particular with the cell-dot of hindwing much enlarged, not infrequently throwing a sharp streak outward across the double postmedian”. At the same time, he suggested this race might be identified with Semper's *plumosa* (see above). However, my close examination of the male and female genitalia of *simplaria*, *plumosa* and *tranostigma*, including those of the type specimens, indicates that they should be separated as independent species.

***Myrioblephara macrosimplaria* sp. nov.** (Figs 26–29)

Length of forewing 17–19 mm, expanse 29–32 mm. Easily distinguished from the other congeners by larger size. Most similar to *plumosa* in colour and markings, but postmedial line more strongly outcurved beyond cell on forewing.

Male genitalia (Fig. 62). Similar to those of *plumosa*. Cucullus slenderer with dorsal and ventral margins less curved, tapering towards apex, while in the other congeners roundish apically; harpe more abruptly swollen apically than in the others.

Female genitalia (Fig. 73). Very similar to those of *tranostigma* in very weakly sclerotized lamella antevaginalis, but bursa copulatrix much longer than in *tranostigma*.

Holotype. ♂. Mindanao, Mt Dolang-dolang 2,300 m, 10–12. v. 2000 (native collector). Paratypes. 9 ♂ 1 ♀. 3 ♂, same data as holotype; 3 ♂, Mindanao, Mt Dolang-dolang 2,500 m, 22–25. v. 2000 (native collector); 3 ♂ 1 ♀, “Philippinen, Mindanao, Bukidnon, Mt. Kitanglad S-Seite, Primärwald 2,200 m, VIII. 1993, 8°07'N Breite, 124°55'E Länge, leg. V. Sinjaev ex Coll. Schintlm.”, ZFMK.

Etymology. This new species is probably the largest in the *M. simplaria* complex.

Geographical range. Mindanao.

***Myrioblephara* sp.**

Similar to *M. pingasoides* (Warren, 1893), *Proc. zool. Soc. Lond.* **1893**: 430, from India, in colour and maculation, but differing in the female genitalia as follows. Sterigma not sclerotized; colliculum absent; bursa copulatrix ribbed and lightly sclerotized posteriorly.

Material examined. Mindanao. 1 ♀, Bukidnon, Mt Kitanglad (native collector), in my collection.

The female genitalia indicate that this species is a new one, but it will be undescribed until the male spouse is discovered.

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References

- Barlow, H. S., 1982. *An Introduction to the Moths of South East Asia*. Kuala Lumpur.
Holloway, J. D., 1976. *Moths of Borneo with special Reference to Mount Kinabalu*. Kuala Lumpur. Malayan Nature Society.

- , 1994 (not “1993”). The moths of Borneo: family Geometridae, subfamily Ennominae. [= The Moths of Borneo, Part 11] *Malay. Nat. J.* **47**: 1–309, pls 1–19, 593 figs.
- Parsons, M. S., Scoble, M. J., Honey, M. R. & L. M. Pitkin, 1999. In Scoble, M. J. (Ed.), *Geometrid Moths of the World: a Catalogue* (Lepidoptera, Geometridae). 1,016 pp., Index 129 pp. CSIRO Publishing/Apollo Books, Collingwood/Stenstrup.
- Petersen, B., 1966. The Noona Dan Expedition, 1961–62. Insects and other land arthropods. *Ent. Meddr.* **34**: 283–304.
- Prout, L. B., 1931. New Geometridae from the Indo-Australian region. *Novit. zool.* **37**: 32.
- Sato, R., 1999. Descriptions and records of the genus *Diplurodes* Warren (Geometridae, Ennominae) from the Philippines. *Trans. lepid. Soc. Japan* **50**: 267–280.
- Schintlmeister, A., 1993. Die Zahnspinner der Philippinen. Ergebnisse zweier Sammelreisen 1988 (Lepidoptera: Notodontidae). *Nachr. ent. Ver. Apollo* (N. S.) Suppl. **12**: 99–174.
- Semper, G., 1896–1902. Reisen im Archipel der Philippinen. Zweiter Theil, Sechster Band. *Die Schmetterlinge der philippinischen Inseln* **2**. Band. Die Nachtfalter-Heterocera. Pp. 381–728. Wiesbaden.
- Swinhoe, C., 1894. A list of the Lepidoptera of the Khasia Hills. Pt. 2. *Trans. ent. Soc. Lond.* **1894**: 145–223, pl. 2.
- Warren, W., 1900. New genera and species of Drepanulidae, Thyrididae, Epiplemidae and Geometridae from the Indo-Australian and Palaearctic Regions. *Novit. zool.* **7**: 98–116.

摘 要

フィリピン産 *Ectropidia*, *Nigriplephara*, *Myrioblephara* 属 (シャクガ科エダシャク亜科)
(佐藤力夫)

筆者 (Sato, 1999) は、先にフィリピン産の *Diplurodes* 属を調査し、9 新種を含む 12 種を記録した。本報では、*Diplurodes* に近縁の 3 属についての研究結果を報告した。

Ectropidia Warren

E. exprimata (Walker). フィリピン初記録。

E. altiprimata Holloway. フィリピン初記録。

E. fimbripedata Warren. Peninsular Malaysia から記載されたもので、フィリピンの個体群はかなり大型。また Borneo の個体群の雄交尾器は、costa の状態などに明確な差異が認められる。本種の雌交尾器は未調査。今後、各地のより多くの材料に基づく検討が必要である。

E. philippidaria Sato. 新種。Borneo から記載された *E. illepidaria* (Walker), *E. quasilepidaria* Holloway 両種によく似ており、外観による区別は難しいが、雌雄交尾器の違いは明確である。

E. leytensis Sato. 新種。♂交尾器の cucullus の形状が他の近似種と異なる。現時点では Leyte からしか知られていない。

Nigriplephara Holloway

N. radula Holloway. フィリピン初記録。

N. cheyi Holloway. Borneo から 1 ♂ に基づいて記載。本報で記録した Mindanao の 1 ♂ は、holotype にくらべて大型で、後翅中央に白色部をもち、交尾器にも若干の違いが見られるが種レベルのものではない、と判断した。

Myrioblephara Warren

M. semperi Sato. 新種。Mindanao に分布。

M. palawanica Sato. 新種。Palawan に分布。

M. mamorui Sato. 新種。Luzon に分布。

以上 3 種は、Borneo から記載された *M. pallibasis* Holloway に近縁で、外観は互いによく似ているが、雌雄交尾器の形態には明確な違いがある。

M. plumosa (Semper).

M. tranostigma (Prout).

M. macrosimplaria Sato. 新種. Mindanao に分布.

以上 3 種は、India から記載された *M. simplaria* (Swinhoe) に近縁で、色彩・斑紋・大きさなどにそれぞれ変異があり、そのうえ、既に *simplaria* にはいくつかの亜種が記載されており、分類の難しいグループである。今後、それらの亜種の再検討も必要である。

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